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in the solubilisation and reconstitution of membrane proteins. This is central to much of modern membranology, and the authors cover very clearly the principles underlying the choice of detergents, as well as methods for characterising the protein-detergent complexes and for reconstitution. Wirtz and his colleagues describe the properties of the phosphatidylcholine transfer or exchange protein and its uses in studying the transbilayer orientation of phospholipids and in altering the phospholipid composition of membranes, while Sandermann critically reviews alternative mechanisms for the cooperativity observed in lipid activation of enzymes.

Finally, there are two chapters on specific systems – Mato reviews the regulation of phosphatidylethanolamine methylation, and Brodbeck gives a progress report on the detergent-soluble, or amphiphilic, acetylcholinesterase and its interactions with phospholipids and detergents.

Almost any biochemist, membranologist or not, with an interest in the molecular interations underlying biological activity would find something of interest in this book. Those beginning to work in the field should find it a useful companion and guide to some of the important techniques. It is unfortunate that personal ownership of the book is virtually ruled out by the very high price, but biochemical libraries should be urged to buy it.

G.C.K. Roberts

Advances in Prostaglandin, Thromboxane and Leukotriene Research, Volume 15

Edited by O. Hayaishi and S. Yamamoto

Raven Press; New York, 1985

xxx + 746 pages. $98.50

This large, expensive and well produced book deserves a place on the shelves of anybody involved in research in the eicosanoid field or related areas such as inflammation and PAF (platelet activating factor). It contains 191 invited summary papers from the cream of the participants at the November 1984 Prostaglandin Conference held in Kyoto (Japan). As such, the papers are almost all very brief (3 to 4 pages each), but benefit by being concise and to the point. Moreover, they have been properly typeset and well proof-read and are illustrated with adequate figures and experimental data. Taken all together, this means that the book covers an exceptionally wide area of this now very large subject.

It would be invidious to pick out individual papers or research groups for special comment, but it might be helpful to readers of this review if I mentioned that the strongest represented areas are as follows (number of mini-papers in brackets): assay methodologies, especially RIA and negative-ion GC/MS (21); arachidonate release mechanisms, PI turnover (10); eicosanoid enzymology, including enzyme turnover, regulation of cellular expression (fundamental advances here), inhibitors and stimulators (emphasis these days predictably on the leukotriene pathway), modifications with pentaneoic acid substitution (35); new analogues, medicinal chemistry (17); inflammation, cell proliferation and their involvement/modulation by eicosanoids, including the novel marine clavulones and punaglandins (21); kidney, hypertension, thrombosis and vasospasm (34 contributions); nervous system (11); reproduction (12); gastrointestinal, mainly cytoprotection (8); platelet activating factor (13).

This list may well appear somewhat indigestible, but I can assure you that in fact the diverse contents are on the whole very accessible, so much so that many of the papers could be recommended for students of the subject, rather than just for researchers. The book is also interesting because it shows

very well the considerable eminence in the field that has been achieved in the last ten years by the Japanese scientists. Finally, I have one complaint and one suggestion. The index, although long, is by no means complete, and therefore makes it hazardous to try to dip into the book on a topic basis. My suggestion is that each section or theme might benefit from an editorial-type overview, in which a distinguished expert was invited briefly to indicate a personal assessment of the state of the art, together with predictions for the future. This would certainly increase the appeal of this important volume, at least for me.

Robin Hoult

The Retinoids

Edited by M.B. Sporn, A.B. Roberts and D.S. Goodman

Academic Press; Orlando, FL, 1984

Vol. 1, xiii + 424 pages. £45.50, $54.50; Vol. 2, xiii + 446 pages. £46.00, $55.00

Fat-soluble A, a growth factor for rats, was first described in 1913 and named vitamin A in 1920. Today vitamin A is officially known as retinol; that is it is one member of a large number of naturally occurring and synthetic compounds consisting of four isoprenoid units joined in a head to tail manner and known collectively as Retinoids – hence the title of this thesis. However the term vitamin A is still used today as the generic descriptor for retinoids exhibiting qualitatively the biological action of retinol; according to the IUPAC Commission on Biochemical Nomenclature it should only be used in derived terms such as vitamin A activity, vitamin A deficiency. With this nomenclature in mind the contents of the treatise can be explored.

In 1957 T. Moore produced a single author book on vitamin A in which all the available information could be accommodated in 645 pages. However during the past 25–30 years the investigations in this area have not only been increasingly numerous but have become more and more wide-ranging, so that in 1984 two volumes with 16 authors were required to cover selected aspects in authoritative detail. The first volume is concerned mainly with the chemical and physical properties, methods of analysis and bioassay and with the synthesis of labelled retinoids, which are so important for penetrating metabolic studies. This volume ends with an impressive chapter on vitamin A in animal and human nutrition with its emphasis on the continuing grave problem of vitamin A deficiency in the Third World. The second volume generally deals with more biological aspects and includes sections on biosynthesis, absorption and hepatic metabolism of retinol; plasma retinol binding protein; cellular retinoid binding proteins, and function in vision. This last is the only function as yet reasonably well understood at the molecular level; there is no doubt that retinoids modify cell differentiation and cell proliferation as described in detail by Roberts and Sporn, but the nature of the molecular mechanisms involved still evades investigators and will probably continue to do so until the central role of the gene in the process is fully appreciated. Other chapters cover the pre-clinical and clinical toxicology of selected retinoids, their successful clinical use in dermatology and investigations which suggests a role for retinol in immunostimulation. A thoughtful chapter on 'Retinoids in Cancer' discusses this controversial subject with balanced detachment.

The two volumes represent a timely and authoritative treatise which gives an up to date view of an aspect of biochemistry which seems poised to develop rapidly in the near future. The treatise can be recommended as indispensible reading for the expert in this general area. However for someone about to move into 'retinoids' the 75 page overview by G.A.J. Pitt in 'Fat Soluble Vitamins' (ed. A.T. Diplock, Heinemann) can be strongly recommended as tasty hors d'oeuvres before the main dish is tackled.

T.W. Goodwin